

## Unit 1: Numbers and Operations in Base Ten

In this unit, students will extend their knowledge of number relationships in preparation for learning the concepts of multiplication and division. Beginning on day one, it will be important to assess your students to determine who does NOT have strong number sense; that is they haven't developed strategies beyond "counting on". These students need to begin working on the relationships of the numbers one to ten if they have not developed strategies.

In this unit, students will:

- Investigate, understand, and use place value to manipulate numbers.
- Build on understanding of place value to round whole numbers.
- Continue to develop understanding of addition and subtraction and use strategies and properties to do so proficiently and fluently.
- Draw picture graphs with symbols that represent more than one object.
- Create bar graphs with intervals greater than one.
- Use graphs and information from data to ask questions that require students to compare quantities and use mathematical concepts and skills.

### ***Number and Operations...***

Prior to implementing rules for rounding, students need to have opportunities to investigate place value. A strong understanding of place value is essential for the developed number sense and the subsequent work that involves rounding numbers.

Building on previous understandings of the place value of digits in multi-digit numbers, place value is used to round whole numbers. Dependence on learning rules or mnemonics can be eliminated with strategies such as the use of a number line to determine which multiple of 10 or of 100 a number is closer. (5 or more rounds up, less than 5 rounds down). As students' understanding of place value increases, the strategies for rounding are valuable for estimating, justifying, and predicting the reasonableness of solutions in problem-solving.

Continue to use manipulatives such as hundreds charts and place-value charts. Have students use a number line or a roller coaster example to block off the numbers in different colors.

For example, this chart shows which numbers will round to the tens place.

Rounding can be expanded by having students identify all the numbers that will round to 30 or round to 200.

Strategies used to add and subtract two-digit numbers are now applied to fluently add and subtract whole numbers within 1000. These strategies should be discussed so that students can make comparisons and move toward efficient methods.

Number sense and computational understanding is built on a firm understanding of place value.

\*adapted from Georgia Department of Education